



What rule for the Federal Reserve? Forecast targeting!

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Ben Bernanke (2015): “The Fed has a rule”

<https://www.youtube.com/watch?v=KJmA5JDNpKg&t=42>

The Fed has a rule. The Fed’s rule is that we will go for a 2% inflation rate; we will go for the natural rate of unemployment; we put equal weight on those two things; we will give you information about our projections, our interest rate.

That is a rule, and that is a framework that should clarify exactly what the Fed is doing.



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Outline

- Problems with The FORM (CHOICE) Act and its Reference Rule (the Taylor rule)
- The Fed's mandate
- How to best fulfill the mandate: Forecast targeting
 - Decision
 - Implementation
 - Summary of the rule
- The accountability of the Fed
- An example: Reviewing the policy decision
- Is the Fed already practicing forecast targeting?
- Conclusions



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The FORM (CHOICE) Act and the Reference Rule

- Yellen 2015: The Act will impair the Fed's ability to fulfill its mandate
- It implies a threat to Fed's independence: Congress and the Government Accountability Office (GAO) get short-term influence over monetary policy
- There is a Reference Rule, which is the original 1993 Taylor rule (TR),
$$i_t = 2 + \pi_t + 0.5 (\pi_t - 2) + 0.5 y_t$$
which thus becomes the benchmark
- FOMC must within 48 hours submit its Directive Policy Rule (DPR), with coefficients
- Departures of the DPR from the TR require “a detailed justification”; GAO will judge compliance, conduct reviews, and report to Congress



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Problems with the TR (Svensson 2003)

- Is not optimal, sometimes far from optimal; uses too little information; provides rigid response to inflation and GDP gap; does not allow judgmental adjustments
- Good monetary policy needs to respond to *all* relevant information (much more than current inflation and GDP gap), take into account judgment, and adapt to new information and situations. The TR is too rigid for this.
- Possible response: TR is mere “guidelines” for MP, deviations *are* allowed (Taylor 1993, 2000).
 - But then *incomplete* rule!
 - No rule for when deviations are appropriate!



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The Fed's mandate

- Maximum employment and price stability
- Simplify: Assume exogenous labor-market participation rate: Then focus on unemployment and the (minimum) long-run sustainable unemployment rate, u^*
- FOMC “Balanced approach”: Equal weight on stabilizing inflation around 2% and unemployment around (*estimated*) u^*
- Standard loss function:

$$L_t = (\pi_t - \pi^*)^2 + (u_t - u^*)^2$$



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Fulfilling the mandate

- Consider “normal” times, no balance-sheet policy:
Policy rate is instrument
- Two important considerations:
 1. Policy-rate changes affect inflation and activity with a lag
 - Then policy need to focus on forecasts of inflation and unemployment
 2. Expectations of *future* policy rate matters, not the current policy rate (Woodford: “Management of expectations”)
 - These policy-rate expectations affect longer interest rates and asset prices, which affect real activity
 - Thus, the entire policy-rate path matters



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Fulfilling the mandate: Forecast targeting

- Select the policy rate and, importantly, the policy-rate path, so that the corresponding forecasts of inflation and unemployment “look good”
- “Looking good”: To best fulfill the mandate, that is, to best stabilize the inflation forecast around 2% and the unemployment forecast around (estimated) u^*
- Not to discuss and select a policy-rate path is an *incomplete* decision process



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Forecast targeting: Decision in quarter t

- Policy-rate path, $i^t \equiv (i_{t,t}, i_{t+1,t}, \dots, i_{t+T,t}) \equiv \{i_{t+\tau,t}\}_{\tau=0}^T$
forecast of inflation, $\pi^t \equiv \{\pi_{t+\tau,t}\}_{\tau=0}^T$
forecast of unemployment, $u^t \equiv \{u_{t+\tau,t}\}_{\tau=0}^T$
- Forecast loss function (mean forecasts, not modal)
$$L_{t+\tau,t} = (\pi_{t+\tau,t} - \pi^*)^2 + (u_{t+\tau,t} - u^*)^2$$
- Select the policy-rate path i^t so that π^t and u^t minimize
$$\mathcal{L}_t = \sum_{\tau=0}^T L_{t+\tau,t} = \sum_{\tau=0}^T (\pi_{t+\tau,t} - \pi^*)^2 + \sum_{\tau=0}^T (u_{t+\tau,t} - u^*)^2$$
- Mean squared gaps: $\mathcal{L}_t/T = \text{MSG}_t^\pi + \text{MSG}_t^u$



Forecast targeting: Decision

- Forecasts used as intermediate targets: “Forecast targeting”
- Takes into account all relevant information
- New information is “filtered through the forecasts”
- Relevant information is info that affects the forecasts
- Allows for judgmental adjustments (combination of model simulations and judgmental adjustments)
- Allows for new situations, updating, learning, model uncertainty (Bayesian optimal policy)
- Can be modified to handle Woodford’s “commitment in a timeless perspective” (Svensson and Woodford 2005; Svensson 2010, section 3)
- Or discretion (Svensson 2010, section 3.8)



Forecast targeting: Implementation

- Successful implementation requires *credibility* of policy-rate path and inflation forecast
- Credibility: Expectations aligned with policy-rate path and forecasts of inflation and unemployment
- Make *actual* financial conditions equal to *intended* financial conditions, in order to affect the economy
- To achieve this, publish and justify policy-rate path and forecasts of inflation and unemployment
- Not publishing the policy-rate path is *to hide the most important information*
- Justification of policy may include demonstrations that alternative policy-rate paths lead to worse mandate fulfillment. MSGs may be used.



The forecast-targeting rule: Three steps

1. For a given policy-rate path (for example, last decision), construct new forecasts of inflation and unemployment, taking new information into account.
2. If the new forecasts “look good,” keep the given policy-rate path; if they do not look good, select a new policy-rate path so they do look good.
3. Publish and justify the policy-rate path and forecasts of inflation and unemployment in order to make them credible. If needed, demonstrate that alternative policy-rate path lead to worse mandate fulfillment; MSGs may be used



Accountability

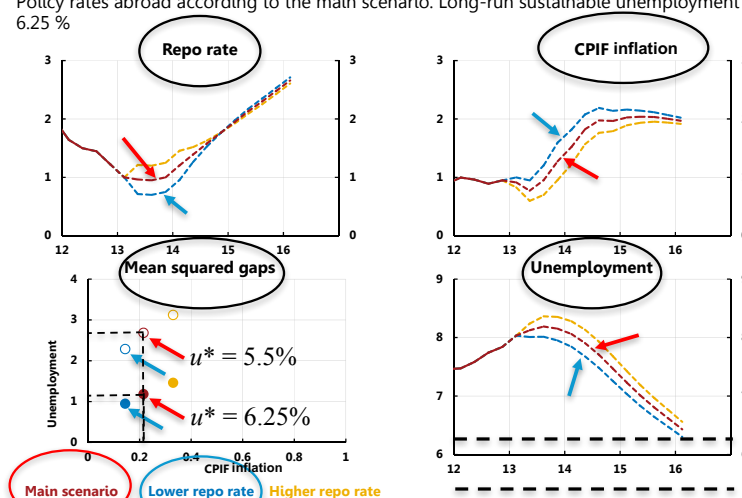
- Publication and justification of policy-rate path and inflation and unemployment forecasts allows Fed policy to be reviewed, by external observers and at regular hearings in Congress
- Review possible in real time as well as after outcomes for inflation and unemployment have been observed
- This way the Fed can be held accountable for fulfilling the mandate.



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An example: Reviewing the policy decision, Riksbank Feb 2013

Figure 4. Monetary policy alternatives around the main scenario
Effects according to RAMSES, partly expected monetary policy shocks.
Policy rates abroad according to the main scenario. Long-run sustainable unemployment 6.25 %



Sources: Statistics Sweden and the Riksbank.

Note. Empty circles indicate mean squared gaps calculated with long-run sustainable employment of 5.5%



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An example:

Reviewing the policy decision, Riksbank Feb 2013

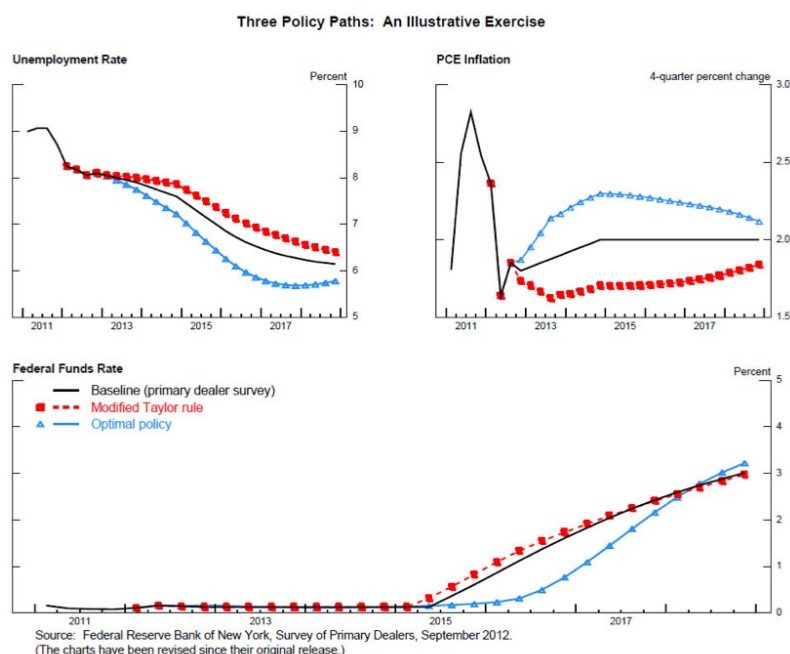
- The forecasts of inflation and unemployment were conditional on a high forecast of foreign interest rates, much above market expectations
- If instead conditional on market expectations of foreign interest rates, the inflation forecast shifts down and the unemployment forecast shifts up
- Then an even lower policy-rate path was warranted, which I dissented in favor of



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Another example: Three policy-rate paths (Yellen 2012)

Add MSGs!



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Does the Fed already practice forecast targeting

- Publication of Summary of Economic Projections (SEP): Median projections of policy rate, inflation and unemployment
- Some problems:
 - Medians of FOMC participants (not voters); equal weights, but Chair has more weight
 - Medians of projections not consistent. Quantitatively important?
 - Initials of participants would help
 - Not joint FOMC decision. Quantitative difference?
- SEPs already used to some extent for justification of policy (quotes) and for holding the Fed accountable (observers, media)
- Better with joint decision and more explicit justification



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Conclusions

- Best rule to fulfill mandate: Forecast targeting
- Publication and justification of policy-rate path and forecasts of inflation and unemployment make it possible to hold the Fed accountable for fulfilling the mandate
- Better with joint FOMC decision on projections of policy rate, inflation, and unemployment



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Reaction function?

- Policy rate responds to *all* relevant information (that is, to all information that affect the forecasts of inflation and unemployment)
- Relevant information changes over time (new shocks, changing structure, ...)
- Explicit reaction function of *information* complex:
Too complex to write down
- Reaction to *forecasts* simpler:
If inflation forecast shifts up (down)
and/or unemployment forecast shifts down (up),
shift policy-rate path up (down)
- New information “filtered through forecasts”

Time-consistency problem, forward-looking variables

- Commitment in time-less perspective
(Svensson & Woodford 2005; Svensson 2010, section 3)
 - Either modify loss function, add cost of deviating from previous announcement
 - Or add restriction on policy rate
- Discretion (Svensson 2010, section 3.8)
 - Expectations depend on state variables
- Quantitatively important?
 - Practical experience
 - Economy sluggish, expectations sluggish

